

**REMARKS**

In the Office Action, claims 1-21 and 28 were rejected. By present response, claim 28 has been amended. Upon entry of amendments, claims 1-21 and claim 28 will be pending in the present patent application. Reconsideration and allowance of all pending claims are requested.

**Rejections Under 35 U.S.C. §112.**

In the office action claim 28 was rejected under 35 U.S.C. §112 as having insufficient antecedent basis "said brush seal" in line 8 of the claim. By present response, claim 28 has been amended to provide antecedent basis for "said brush seal." Thus, it is respectfully requested that the rejection of claims 28 under 35 U.S.C. §112 be withdrawn

**Rejections Under 35 U.S.C. §103**

Claims 1, 2, 4, and 6-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson, et al. (U.S. Patent Publication no. 2001/0006601A1; hereinafter "Wilson") in view of Turnquist, et al. (U.S. Patent no. 6,045,134; hereinafter "Turnquist"), and further in view of Aksit, et al. (U.S. Patent no. 6,406,027; hereinafter "Aksit"). Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Wilson, Turnquist and Aksit as applied to claim 1, and further in view of Short (U.S. Patent no. 5,351,971; hereinafter "Short").

Applicants wish to reiterate all of the arguments made in the previous response and incorporate them by reference. The Examiner's response to the previous arguments seem to be based upon a misunderstanding of the Applicants' position, and are discussed in detail below.

**Turnquist cannot be combined with Aksit because the metallic bristles of Turnquist are welded to the support plates 38 and 40.**

What Turnquist teaches is that the bristles 32 are *welded* to one another and are further *welded* to the support plates 38 and 40. To combine the structure of Turnquist with the non-metallic brush seal of Aksit would completely contravene the teachings of Turnquist. Turnquist teaches *metallic brush seals* and because they are metallic, *they can be held together by welding*. If one had to modify this arrangement to incorporate the non-metallic brush seals of Aksit, one would have to change the entire nature of operation of Turnquist, which is improper in formulation of a *prima facie* case for obviousness.

The Applicants' point of view is supported by MPEP §2143.01, which is incorporated in part below.

**THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE**

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In *re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

**The references fail to teach an envelope for receiving a brush seal assembly.**

In response to the previous arguments, the Examiner argued that Turnquist clearly teaches to have an envelope in a metallic clearance seal to hold a brush seal. Applicants

respectfully disagree. While Turnquist does mention support plates 38 and 40 on opposite axial sides of the bristles 36 of the brush seal assembly 32 to hold the bristles 36 (see Turnquist, column 4, lines 23-28), nowhere in the reference is it taught or suggested that the metallic clearance seal itself is *configured to define* an envelope within which the brush seal is secured, as recited in claims 1 and 19. The above argument finds support in paragraph 24 of the specification, a portion of which is reproduced below (emphasis added):

*...In operation, at least one tooth 32 of the metallic clearance seal 30 is machined, so that this metallic clearance seal 30 is spaced further apart from the shaft 14 to define an envelope 34 therebetween (removed tooth not shown). Such envelopes 34 have typical pre-determined cross-sectional shapes for adapting to corresponding non-metallic brush seal assembly 28 (see Fig. 6 through Fig. 10). More particularly, as may be apparent from Fig. 6 through Fig. 10, the non-metallic brush seals 28 conform to cross-sectional shapes of its corresponding matching envelopes to ensure their secured position in the sealing system 22. Typical anti-rotation pins 36 affixed to the metallic clearance seals 30 further secure position of the non-metallic brush seals 28 in the sealing system 22 by preventing its circumferential displacement relative to the metallic clearance seals 30 (see Fig. 6 for exemplary illustration).*

**The references fail to teach a metallic clearance seal disposed in a fixed radial position with respect to a rotating component.**

This argument, advanced previously, is still valid and Applicants maintain it here. The overarching issue is that these references *cannot* be combined in a way as suggested by the examiner.

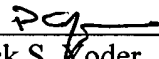
In view of the above arguments, it is believed that claims 1-21 and 28 are patentable over the references cited. Thus, it is respectfully requested that the rejections of claims 1-21 under 35 U.S.C. §103(a) be withdrawn.

**Conclusion**

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Patrick S. Yoder  
Reg. No. 37,479  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289  
(281) 970-4545